REMARKS

In response to the final Office Action dated August 24, 2007, the Assignee respectfully requests continued examination and reconsideration based on the above amendments and on the following remarks.

Claims 1-20 are pending in this application.

Rejection of Claims 1 & 4 under § 103 (a)

Claims 1 and 4 were rejected as being obvious over U.S. Patent 5,790,176 to Craig in view of U.S. Patent Application Publication 2005/00600420 to Kovacevic in view of U.S. Patent Application Publication 2002/0164018 to Wee, *et al.*

Claims 1 and 4, however, are not obvious over the combined teaching of *Craig*, *Kovacevic*, and *Wee*. Claim 1 recites features that are not taught or suggested by *Craig*, *Kovacevic*, and *Wee*, and dependent claim 4 incorporates these same features. Independent claim 1, for example, recites "*recursively* segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented" (emphasis added). As the below paragraphs explain, even though the combined teaching of *Craig*, *Kovacevic*, and *Wee* segments a program into segments, these segments are not "*recursively* segment[ed] ..., *such that a characteristic of a preceding segment determines how a current segment is segmented.*" The proposed combination of *Craig*, *Kovacevic*, and *Wee*, quite simply, makes absolutely no teaching or suggestion of recursive segmentation.

Craig discusses a multimedia server having an output controller. *See* U.S. Patent 5,790,176 to Craig at column 4, lines 30-40. The Office, in particular, cites to passages of *Craig* that discuss a "data pump." *Id.* at column 17. The data pump has multiple, parallel outputs that may be multiplexed into data streams. *See id.* at column 17, lines 7-13. The content contained within the resulting data stream is controlled by the use of multiple memory devices. *See id.* at column 17, lines 13-18. Portions of a program may be distributed to the different memory

devices. *See id.* at column 17, lines 19-32. "Using this technique the loss of one memory device does not wipe out an entire program." *Id.* at column 17, lines 33-34. Interlacing can be used to reconstitute portions from a failed memory device using portions from other memory devices. *See id.* at column 17, lines 35-38. Program segments can be repeated in different memory devices. *See id.* at column 17, lines 41-43. A portion of a program, for example, may be repeated by transmitting the same segment to other memory devices. *See id.* at column 17, lines 42-46. Using this technique, "a system operator can create a data stream flowing from the data pump ... that is constitute by a mixture of program segments that best suits the subscriber demands." *Id.* at column 18, lines 5-10.

Kovacevic discloses a system that processes different types of multimedia data streams. *See* U.S. Patent Application Publication 2005/0060420 to Kovacevic at paragraphs [0024], [0026], and [0028]. The system processes a portion of the packets of a received data stream using different protocols. *See id.* at paragraphs [0024] and [0029]. When a proper protocol is identified, then the remaining packets are also processed using the identified protocol. *See id.* at paragraphs [0024] and [0029].

Wee describes a computer system that segments video data. *See* U.S. Patent 7,184,548 to Wee, *et al.* at column 3, lines 38-51. *Wee*, however, segments a "video frame" into regions. As *Wee* explains, "the video data is comprised of a stream of uncompressed video frames which are received by segmented 702." *Id.* at column 7, lines 64-66. As FIG. 10 illustrates, the video frame is segmented into regions. *See id.* at column 9, lines 18-21, lines 23-27, and lines 27-30. *See also* FIGS. 10A, 10B, and 10C. Each region is then packetized using header data and scalable video data. *See id.* at column 8, line 62 through column 9, line 7. *Wee* further explains its process at column 10, line 55 through column 11, line 20.

Claim, then, is not obvious over the combined teaching of *Craig*, *Kovacevic*, and *Wee*. Even though *Craig*, *Kovacevic*, and *Wee* teach segmenting a data stream, these documents do not teach or suggest "*recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented.*" As the

above paragraphs explained, *Craig, Kovacevic,* and *Wee* do not "*recursively segment*" a data stream "*such that a characteristic of a preceding segment determines how a current segment is segmented.*" Even though the Office cites of passages of *Craig* as teaching these features, the Office is respectfully mistaken. Because *Craig, Kovacevic,* and *Wee* is silent to recursive segmentation, independent claim 1 is not obvious. Claim 4 depends from claim 1 and recites additional features, so claim 4 is also allowable over the combined teaching of *Craig, Kovacevic,* and *Wee.* The Office is thus respectfully requested to remove the § 103 (a) rejection of claims 1 and 4.

Rejection of Claims 19-20 under § 103 (a)

Claims 19-20 were also rejected as being obvious over *Craig* in view of *Kovacevic* and further in view of *Wee.*

Claims 19-20, however, are not obvious over the combined teaching of *Craig, Kovacevic,* and *Wee.* First, these claims recite the same distinguishing features as independent claim 1. Independent claims 19 and 20 both recite "*recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented.*" Because *Craig, Kovacevic,* and *Wee* are silent to recursive segmentation, independent claims 19 and 20 cannot be obvious.

Moreover, independent claims 19 and 20 recite additional, distinguishing features. Independent claim 19, for example, recites "*receiving a request for communications service, the request for communications service originating from a user's client device, the request for communications service communicating via a communications network to a service provider.*" Support for such features may be found at least at paragraphs [0014] and [0021] of United States Application No. 10/720,892 (Attorney Docket 030356), which is incorporated by reference. Independent claim 19 also recites "*querying a payment history database for historical payment information relating to the user's history of payments to creditors,*" "*querying a usage history database for historical usage information relating to the user's past usage of communications*

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services," and "*querying a credit database for credit information relating to a line of credit with a credit card issuer*." Support for such features may also be found at least at paragraph [0025] of United States Application No. 10/720,892, incorporated by reference. Independent claim 19 also recites "*based on the historical payment information, the historical usage information, and the credit information, means for determining that the user can be trusted to pay for the requested communications service, even though the total bill is undetermined*" and "*means for extending trust-based credit to the user.*" Support for such features may also be found at least at paragraph [0023] of United States Application No. 10/720,892, incorporated by reference. Independent claim 19 also recites "*when the trust-based credit is extended, then means for permitting the user to negotiate with other service providers of other communications networks to fulfill the request for communications service.*" Support for such features may also be found at least at paragraphs [0023] and [0027] of United States Application No. 10/720,892, incorporated by reference. Independent claim 19 also recites "*when a common processing service is required, then means for grouping together individual packets of data as a new segment, each of the individual packets in the new segment requiring the common processing service.*" Support for such features may be found at least at paragraph [0023] of United States Application No. 10/720,941 (Attorney Docket 030006), which is incorporated by reference. Independent claim 19 is reproduced below, and independent claim 20 recites similar features.

[c19]   A system, comprising:

means for receiving a request for communications service, the request for communications service originating from a user's client device, the request for communications service communicating via a communications network to a service provider;

· means for querying a payment history database for historical payment information relating to the user's history of payments to creditors;

means for querying a usage history database for historical usage information relating to the user's past usage of communications services;

means for querying a credit database for credit information relating to a line of credit with a credit card issuer;

based on the historical payment information, the historical usage information, and the credit information, means for determining that the user can be trusted to pay for the requested communications service, even though the total bill is undetermined;

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means for extending trust-based credit to the user;

when the trust-based credit is extended, then means for permitting the user to negotiate with other service providers of other communications networks to fulfill the request for communications service;

means for receiving a first data stream at a computer, the first data stream comprising packets of data packetized according to a packet protocol;

means for recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented;

means for recognizing a repetitive segment and for inserting a data compression result of a preceding segment to reduce processing of redundant segments;

when a common processing service is required, then means for grouping together individual packets of data as a new segment, each of the individual packets in the new segment requiring the common processing service;

means for dispersing at least one of the segments via a network for a subsequent processing service; .

means for dispersing the new segment via the network to receive the common processing service;

means for receiving a result of the processing service;

means for receiving results of the common processing service;

means for aggregating the result of the processing service, the results of the common processing service, and an unprocessed segment into a second data stream; and

means for communicating the second data stream via the network to fulfill the requested communications service.

Claims 19-20 are not obvious over the combined teaching of *Craig, Kovacevic,* and *Wee.* Claims 19 and 20, quite simply, recite many features that are not taught or suggested by the proposed combination of *Craig, Kovacevic,* and *Wee.* One of ordinary skill in the art, then, would not think that independent claims 19 and 20 are obvious. The Office is thus respectfully requested to remove the § 103 (a) rejection of claims 19 and 20.

Rejection of Claims 2-3 under § 103 (a)

Claims 2-3 were also rejected as being obvious over *Craig* in view of *Kovacevic* and *Wee* and further in view of U.S. Patent 6,519,693 to Debey. Claims 2 and 3, however, depend from

independent claim 1 and, thus, incorporate the same distinguishing features. As the above paragraphs explained, *Craig*, *Kovacevic*, and *Wee* are silent to "*recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented*" (emphasis added).

The patent to Debey does not cure these deficiencies. *Debey* discloses a CATV network that segments a video program. *See* U.S. Patent 6,519,693 to Debey at column 6, lines 18-21. The segments are scheduled for transmission according to a scheduling algorithm. *See id.* at column 6, lines 25-30. A subscriber's receiver receives the segments and supplies the segments to a television in the correct sequence. *See id.* at column 6, lines 46-55. The "key feature" of *Debey's* concept is the scheduling of the segments in a redundant sequence. *Id.* at column 7, line 66 through column 8, line 5. *Debey's* scheduling algorithm retrieves video segments sized to a "Maximum Response Time," which is an amount of time the subscriber will have to wait before the program is available for viewing. *Id.* at column 8, lines 8-12. *Debey* continues explaining "the basic flow of the scheduling program," which involves the MRT and a counter. *Id.* at column 8, lines 38-50. "From the above it is clear that implementing the scheduling algorithm iteratively calculating during each MRT the result of the equation: COUNT Modulo $X=Y$." *Id.* at column 8, lines 51-61.

Debey, then, does not teach or suggest the features of claim 2. Claim 2 recites "*observing a sequence of packets having a similar structure to a previous sequence of packets and segmenting the sequence of packets to have similar content to the previous sequence of packets.*" As the above paragraph explains, *Debey* makes no such teaching. When *Debey* explains the "scheduling algorithm," the scheduling algorithm is a function of the MRT and a counter. *See id.* at column 8, lines 38-50. *See also id.* at column 8, lines 51-61. *Debey's* scheduling algorithm makes no teaching or suggestion of "*observing a sequence of packets having a similar structure to a previous sequence of packets and segmenting the sequence of packets to have similar content to the previous sequence of packets.*" The proposed combination of *Craig*, *Kovacevic*, *Wee*, and *Debey* is, quite simply, silent to the features recited by claim 2.

Claim 3 is not obvious. Claim 3 recites *"using a chronological characteristic of the preceding segment to describe the current segment."* The Office cites column 13 of *Debey* as teaching these features, but the Assignee cannot agree. Column 13 of *Debey* teaches the receiver's decision processes for accepting, or rejecting, incoming segments. First, column 13 of *Debey* describes a <u>receiver's</u> decision process, so the passages can have nothing to do with *"recursively* segmenting the first data stream," as claim 3 recites.

Moreover, *Debey* does not teach or suggest the features recited by claim 3. *Debey* explains that the "receiver knows at what chronological point it is currently at in the playback process, and it calculates when the incoming data will be needed." *Debey* "extracts the information ... that indicates when a particular segment will next be available and compares this to the time when the segment will be needed." U.S. Patent 6,519,693 to Debey at column 13, lines 15-23. Yet this passage fails to teach or suggest *"using a chronological characteristic of the preceding segment to describe the current segment."* As *Debey* fails to teach or suggest *"recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented,"* *Debey's* chronological calculation fails to teach or suggest the features of claim 3.

The proposed combination of *Craig*, *Kovacevic*, *Wee*, and *Debey*, then, does not teach or suggest the features of claims 2 and 3. Neither *Craig*, *Kovacevic*, *Wee*, and/or *Debey* teach or suggest *"recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented,"* as independent claim 1 recites. Dependent claims 2 and 3 incorporate these features and recite additional, distinguishing features. The Office is thus respectfully requested to remove the § 103 (a) rejection of claims 2 and 3.

Rejection of Claims 5-8 under § 103 (a)

Claims 5-8 were also rejected as being obvious over *Craig* in view of *Kovacevic* and *Wee* and further in view of U.S. Patent 6,836,465 to Rajan, *et al.* Claims 5-8; however, depend from

independent claim 1 and, thus, incorporate the same distinguishing features. As the above paragraphs explained, *Craig*, *Kovacevic*, and *Wee* are silent to "*recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented*."

The patent to Rajan, *et al.* does not cure these deficiencies. *Rajan* determines the links and routes that are traversed by IP traffic. *See* U.S. Patent 6,836,465 to Rajan, *et al.* at column 1, lines 8-12. *Rajan* monitors, tracks, and/or predicts routing paths for IP packets. *See id.* at column 2, lines 50-51. Historical routing information is stored using a time-ordered list of routing events. *See id.* at column 3, lines 40-60.

Still, though, *Craig*, *Kovacevic*, *Wee*, and *Rajan* are silent to all the features recited by independent claim 1, from which claims 5-8 depend. The proposed combination of *Craig*, *Kovacevic*, *Wee*, and *Rajan* is silent to "*recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented*." One of ordinary skill in the art, then, would not think that claims 5-8 are obvious. The Office is thus respectfully requested to remove the § 103 (a) rejection of claims 5-8.

Rejection of Claims 9-11 under § 103 (a)

Claims 9-11 were rejected as being obvious over *Kovacevic* in view of U.S. Patent 6,957,226 to Attias and further in view of U.S. Patent Application Publication 2002/0164018 to Wee, *et al.* (now issued as U.S. Patent 7,184,548).

Claims 9-11, however, are not obvious over *Kovacevic*, *Attias*, and *Wee* "*018*. Independent claim 9, from which claims 10-11 depend, recites many features that are not taught or suggested by the proposed combination of *Kovacevic*, *Attias*, and *Wee* '018. Independent claim 9, for example, recites "*recursively segmenting the first data stream into segments, such that a characteristic of a preceding segment determines how a current segment is segmented*." Independent claim 9 also recites "*querying a payment history database for historical payment*

information relating to the user's history of payments to creditors," "querying a usage history database for historical usage information relating to the user's past usage of communications services," and *"querying a credit database for credit information relating to a line of credit with a credit card issuer."* Support for such features may also be found at least at paragraph [0025] of United States Application No. 10/720,892, incorporated by reference. Independent claim 9 also recites *"based on the historical payment information, the historical usage information, and the credit information, means for determining that the user can be trusted to pay for the requested communications service, even though the total bill is undetermined"* and *"means for extending trust-based credit to the user."* Support for such features may also be found at least at paragraph [0023] of United States Application No. 10/720,892, incorporated by reference. Independent claim 9 also recites *"when the trust-based credit is extended, then means for permitting the user to negotiate with other service providers of other communications networks to fulfill the request for communications service."* Support for such features may also be found at least at paragraphs [0023] and [0027] of United States Application No. 10/720,892, incorporated by reference. Independent claim 9 also recites *"when a common processing service is required, then means for grouping together individual packets of data as a new segment, each of the individual packets in the new segment requiring the common processing service."* Support for such features may be found at least at paragraph [0023] of United States Application No. 10/720,941 (Attorney Docket 030006), which is incorporated by reference. Independent claim 9 is reproduced below, and dependent claims 10-11 incorporate all these features.

[c09]   A method of providing communications services, comprising:

> receiving a request for communications service, the request for communications service originating from a user's client device, the request for communications service communicating via a communications network to a service provider;
> querying a payment history database for historical payment information relating to the user's history of payments to creditors;
> querying a usage history database for historical usage information relating to the user's past usage of communications services;
> querying a credit database for credit information relating to a line of credit with a credit card issuer;

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based on the historical payment information, the historical usage information, and the credit information, determining that the user can be trusted to pay for the requested communications service, even though the total bill is undetermined;

receiving data at a computer, the data received as packets of data packetized according to a packet protocol;

recursively segmenting the packets of data into segments according to a segmentation profile stored in memory, the segmentation profile storing rules that define actions when a similar characteristic between segments is encountered, such that a characteristic of a preceding segment determines how a current segment is segmented;

recognizing a repetitive segment and inserting a data compression result of a preceding segment to reduce processing of redundant segments;

when a common processing service is required, then grouping together individual packets of data as a new segment, each of the individual packets in the new segment requiring the common processing service;

dispersing at least one of the segments via a network for a subsequent processing service;

dispersing the new segment via the network to receive the common processing service;

receiving results of the subsequent processing service;

receiving a result of the common processing service;

assembling a data stream comprising i) the results of the subsequent processing service, ii) an unprocessed recursively segmented segment, and iii) the results of the common processing service; and

communicating the assembled data stream via the network to fulfill the requested communications service.

The proposed combination of *Kovacevic, Attias,* and *Wee '018* does not obviate all these features. As the above paragraphs explained, *Kovacevic* describes a system that processes different types of multimedia data streams. *See* U.S. Patent Application Publication 2005/0060420 to Kovacevic at paragraphs [0024], [0026], and [0028]. *Kovacevic* processes a portion of the packets of a received data stream using different protocols. *See id.* at paragraphs [0024] and [0029]. When a proper protocol is identified, then *Kovacevic* processes the remaining packets using the identified protocol. *See id.* at paragraphs [0024] and [0029].

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Attias describes a multimedia search system. *See* U.S. Patent 6,957,226 to Attias at column 2, lines 25-30. A "responsibility vector" is generated for segment (or frame) in a multimedia file. *Id.* at column 3, lines 21-23. Each responsibility vector, associated with each frame, is stored. *See id.* at column 3, lines 24-27. When a user wishes to find a multimedia file, the user specifies a query segment (such as a segment of an audio song or of an image). *See id.* at column 2, lines 37-41. *See also id.* at column 5, line 64 through column 6, line 4. A responsibility vector is generated for the query segment. *See id.* at column 5, lines 53-56. A "query profile" is generated based on the responsibility vector for the query segment. *Id.* at column 5, lines 56-58. A "segment profile" may also be generated for each segment in the multimedia file. *Id.* at column 5, lines 58-59. *Attias* then determines the likelihood (or probability) that a multimedia file contains the query segment, based upon the query profile and the segment profile. *See id.* at column 6, lines 37-43.

Wee '018 describes a computer system that segments video data. *See* U.S. Patent 7,184,548 to Wee, *et al.* at column 3, lines 38-51. *Wee*, however, segments a "video frame" into regions. As *Wee* explains, "the video date is comprised of a stream of uncompressed video frames which are received by segmented 702." *Id.* at column 7, lines 64-66. As FIG. 10 illustrates, the video frame is segmented into regions. *See id.* at column 9, lines 18-21, lines 23-27, and lines 27-30. *See also* FIGS. 10A, 10B, and 10C. Each region is then packetized using header data and scalable video data. *See id.* at column 8, line 62 through column 9, line 7. *Wee* further explains its process at column 10, line 55 through column 11, line 20.

Still, though, claims 9-11 are not obvious over *Kovacevic, Attias*, and *Wee* '*018*. Even though *Kovacevic, Attias*, and *Wee* '*018* segments multimedia files, this proposed combination does not "*recursively*" segment "*such that a characteristic of a preceding segment determines how a current segment is segmented.*" *Kovacevic, Attias*, and *Wee* '*018*, quite simply, makes no teaching or suggestion of "*recursive*" segmentation. Moreover, independent claim 9 recites many more features that are not taught or suggested by the proposed combination of *Kovacevic, Attias*, and *Wee* '*018*. One of ordinary skill in the art, then, would not think that independent

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claim 9 and dependent claims 10-11 are obvious. The Office is thus respectfully requested to remove the § 103 (a) rejection of claims 9-11.

Rejection of Claims 12 & 14 under § 103 (a)

Claims 12 and 14 were rejected as being obvious over *Kovacevic* in view of *Attias* and *Wee "018* and further in view of *Debey*.

Claims 12 and 14, however, are not obvious. These claims depend from independent claim 9 and, thus, incorporate the same distinguishing features. As the above paragraphs explained, *Kovacevic*, *Attias*, *Wee "018*, and *Debey* are all silent to "*recursively segmenting...such that a characteristic of a preceding segment determines how a current segment is segmented*" (emphasis added). While the proposed combination of *Kovacevic*, *Attias*, *Wee "018*, and *Debey* discloses segmenting multimedia files, this proposed combination, quite simply, makes no teaching or suggestion of "*recursive*" segmentation. Moreover, independent claim 9 recites many more distinguishing features that are not taught or suggested by the proposed combination of *Kovacevic*, *Attias*, *Wee "018*, and *Debey*. One of ordinary skill in the art, then, would not think that independent claim 9 and dependent claims 12 and 14 are obvious. The Office is thus respectfully requested to remove the § 103 (a) rejection of claims 12 and 14.

Rejection of Claim 13 under § 103 (a)

Claim 13 was rejected as being obvious over *Kovacevic* in view of *Attias* and *Wee "018* and further in view of *Craig*.

Claim 13, however, is not obvious. Claim 13 depends from independent claim 9 and, thus, incorporates "*recursively segmenting...such that a characteristic of a preceding segment determines how a current segment is segmented*" (emphasis added). While the proposed combination of *Kovacevic*, *Attias*, *Wee "018*, and *Craig* discloses segmenting multimedia files, as the above paragraphs explained, this proposed combination makes no teaching or suggestion

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of "*recursive*" segmentation. Moreover, independent claim 9 recites many more distinguishing features that are not taught or suggested by the proposed combination of *Kovacevic, Attias, Wee* "*018*, and *Craig*. One of ordinary skill in the art, then, would not think that independent claim 9, and thus dependent claim 13, is obvious. The Office is thus respectfully requested to remove the § 103 (a) rejection of claim 13.

Rejection of Claims 15-18 under § 103 (a)

Claims 15-18 were rejected as being obvious over *Kovacevic* in view of *Attias* and *Wee* "*018* and further in view of *Rajan*.

Claim 15-18, however, are not obvious. These claims depend from independent claim 9 and, thus, incorporate "*recursively* segmenting...such that a characteristic of a preceding segment determines how a current segment is segmented*" (emphasis added). Again, while the proposed combination of *Kovacevic, Attias, Wee* "*018*, and *Rajan* discloses segmenting multimedia files, this proposed combination makes no teaching or suggestion of "*recursive*" segmentation. Moreover, independent claim 9 recites many more distinguishing features that are not taught or suggested by the proposed combination of *Kovacevic, Attias, Wee* "*018*, and *Rajan*. One of ordinary skill in the art, then, would not think that independent claim 9, and thus dependent claims 15-18, is obvious. The Office is thus respectfully requested to remove the § 103 (a) rejection of claims 15-18.

If any issues remain outstanding, the Office is requested to contact the undersigned at (919) 469-2629 or *scott@scottzimmerman.com*.

Respectfully submitted,

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